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CS 4375

Sockets Assignment 3 Report

Issues and Modifications:

When Implementing Ken's Server with Emilio's Client we ran into the issue where the client would add trailing blank spaces to the message so when a user would type "no" the server would receive   "no   " which would cause the logic to fail. To remedy this after the server would receive and decode the data strip was called to remove any trailing or leading blank spaces.

Code:

Client(unchanged):

```python
#!/usr/bin/env python3
from socket import *
import sys
MLENGTH = 125

class MySocket:

    def __init__(self, sock=None):
        if sock is None:
            self.sock = socket(AF_INET, SOCK_STREAM)
        else:
            self.sock = sock

    def connect(self, host, port):
        self.sock.connect((host, port))

    def mysend(self, msg):
        self.sock.send(msg.encode('utf-8'))

    def myreceive(self):
        chunk = self.sock.recv(MLENGTH)
        chunk = chunk.strip()
        return chunk

    def myprepare(self,msg): # ensures that the message is of the right length
        while len(msg) < 100:
            msg = msg + ' '
        return msg

class ConsoleReader:
```

```python
    def __init__(self):
        pass

    def get_next_line(self):
        return input()

class FileReader:
    def __init__(self, filename):
        with open(filename) as f:
            content = f.readlines()
        self.file_lines = [x.strip() for x in content]

    def get_next_line(self):
        return self.file_lines.pop(0)

def main():
    try:
        start_socket()
    except FileNotFoundError:
        print("File was not found")

def start_socket():
    s = MySocket()
    s.connect("localhost",7069)
    reader = get_reader()
    conversate(s, reader)

def get_reader():
    if len(sys.argv) == 1:
        return ConsoleReader()
    else:
        return FileReader(sys.argv[1])

def conversate(s, reader):
    response = s.myreceive()
    print(response.decode())
    while True:
        currentline = reader.get_next_line()
        currentline = s.myprepare(currentline)
        s.mysend(currentline)
        response = s.myreceive()
        print(response.decode())
main()
```

Server:

```python
#!/usr/bin/env python3
from socket import *
s = socket(AF_INET, SOCK_STREAM)
s.bind(("127.0.0.1", 7069))
s.listen(5)
```

```python
c,a = s.accept()
counter = 0
data =""
while True:
    if counter == 0:
        c.send("System:\tHello, welcome to chatbot program. \nAre you importing messages from
files? \n Enter only either \"yes\" or \"no\".".encode())
        counter += 1
    elif counter == 1:
        if data == "yes":
            c.send("System:\tImport file but currently not available.\n System:\tHello, are you male or
female?".encode())
            counter += 1
        elif data == "no":
            c.send("System:\tHello, are you male or female?".encode())
            counter += 1
        else:
            c.send("System:\tPlease enter in the correct format ... \n".encode())
    elif counter == 2:
        if data == "female":
            c.send("System:\tHow excellent! Are you a CS major?".encode())
        elif data == "male":
            c.send("System:\tMe too. Are you CS major?".encode())
        else:
            c.send("System:\tGreat! Anyways, are you CS major?".encode())
        counter += 1
    elif counter == 3:
        if data == "no":
            c.send("System:\tToo bad. Anyway, what's an animal you like, and two you
don't?".encode())
        elif data == "yes":
            c.send("System:\tExcellent, I am too. What's an animal you don't like, and two you
don't?".encode())
        else:
            c.send("System:\tCool! By the way, what's an animal you like, and two you
don't?".encode())
        counter += 1
    elif counter == 4:
        data1 = data.split(',')
        msg = "System:\t%s awesome, but i hate %s too. Bye for now." % (data1[0].strip(), data1[-
1].strip())
        c.send(msg.encode())
        counter += 1
    else:
        c.send(''.encode())
    data = c.recv(1000).decode()
    data = data.strip()

c.close()
```

Output:

```
Are you importing messages from file?
Enter only either "yes" or "no".
no
System: Hello, are you male or female?
male
System: Me too. Are you CS major?
no
System: Too bad. Anyway, what's an animal you like, and two you don't?
dog,cat
System: dog awesome, but i hate cat too. Bye for now.
```